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ABSTRACT

This document is one of ten curriculum guides developed by the Nevada Competency-Based Adult High School Diploma (CBAHSD) Project. This curriculum guide on mathematics is divided into three topics. The topics included are Problem Solving, Computation, and Geometry and Measurement. Competency statements and performance indicators are provided for each topic area. The performance indicators are designed to be used as pre- and post-tests. Answer keys are also provided. This set of curriculum guides is accompanied by both a teacher's guide and a student handbook. (BM)

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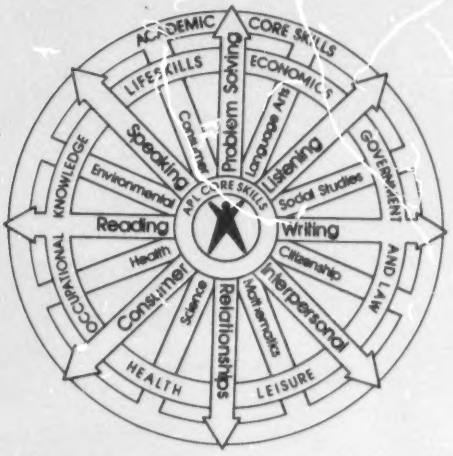
MATHEMATICS



NEVADA COMPETENCY BASED
ADULT HIGH SCHOOL DIPLOMA PROJECT

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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INTRODUCTION

This series of mathematics competencies may be considered to be equivalent to one high school credit. The competencies and performance indicators are representative of the computational and problem solving skills required of an adult in today's society.

The field test instructor recommends that a student be required to attempt and provide a correct answer for each performance indicator in order to receive credit for a competency. Each indicator was designed to validly test the competency. An instructor may decide that a student adequately passes a competency after correctly answering only two indicators. But the instructor should pay careful attention to each indicator as the same basic problem may appear in several different configurations: vertical, horizontal, words. A student may be able to find the correct answer for a vertical problem, yet when presented with the same problem in word form or other, may not be able to find the correct answer.

It is recommended that the competencies be presented in the order in which they appear here. Pre-test indicators may be presented in battery form or competency by competency.

TOPICS

Problem Solving

Computation

Geometry and Measurement

MATHEMATICS

Problem Solving

The student will be able to determine the correct amount of change and express it in the least possible number of coins from a purchase, percent of sales tax and payment.

MPS - 1
Pre-test: any
Post-test: all

PERFORMANCE INDICATORS:

1.

Sales Slip	
3 tires @ $50.00	$150.00
Sales tax 4%	_____
Total Received	$160.00
Change	_____

Complete the sales slip.

2. Mrs. Jones bought $17.50 worth of groceries. The sales tax is 3 1/2%.

   a) What is her total bill?

   b) If she gave the clerk a $20.00 bill, how much change should she receive?

   c) List below the number of each type of coin she should receive, using the least number of coins possible.

3. Complete the following chart.

	Amount of Purchase	Sales Tax 5%	Total	Payment	Amount of Change
A	$10.00			$20.00	
B	$15.79			$20.00	
C	$ 4.60			$ 5.00	

4. Tell your instructor what coins you would give in change in each case in Number 3. (Be sure to use the smallest number of coins possible.)

MATHEMATICS

Problem Solving

The student will be able to compute simple interest on a loan for a given number of years and compute the total amount to be repaid.

MPS - 2

Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

1. Mrs. Smith borrowed $500.00 for a year at 10% interest.

   a) How much interest did she pay?

   b) What was the total amount she paid back?

2. Mr. Jones borrowed $750.00 for 5 years at 9%.

   How much interest did he pay?

3. Suzy Coed borrowed $1,000.00 from the government to complete her education. The interest rate was 6%. At the end of 4 years she paid off the loan and interest.

   How much did she give the government?

4. If you borrow $2,000.00 at 8% interest and pay the total principal and interest in 3 years, how much will you pay?

MATHEMATICS

Problem Solving

MPS - 3

Pre-test: any

Post-test: all

The student will be able to use the original price and the percent of discount to compute the sale price.

PERFORMANCE INDICATORS:

1. Slacks that normally sell for $25.00 a pair are marked 20% off.

   What is the sale price?

2. A tire company is advertising a 25% discount on all tires.

   What will be the sale price of an $80.00 tire?

3. A furniture manufacturer has marked all dining room sets 40% off.

   What is the sale price of a set that was $495.00?

4. The regular price of a coffee maker is $29.95.

   If it is marked 15% off, what is the sale price?

MATHEMATICS

Problem Solving

The student will be able to compute the commission due on a given amount of sales at a given percent.

MPS - 4

Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

1. A real estate agent charges a 7% commission for selling a house.

   What commission will he earn on the sale of a $45,000.00 house?

2. A carpet salesman works on a commission basis being paid 12% on all sales.

   If he sells $2,500.00 worth of carpeting in a week, what will his commission be?

3. To help make extra money for the family vacation, Mrs. Rike decided to take a job selling cosmetics door-to-door. She earns a 30% commission. One week she sold $200.00 of cosmetics.

   How much did she earn?

4. Mr. Fuller, the brush man, sells brushes on a 25% commission.

   What will his commission be for a month in which he sells $1,500.00 worth of brushes?

MATHEMATICS

Problem Solving

MPS - 5

Pre-test: any

Post-test: all

The student will be able to compute the total price of a number of objects when the price is expressed as a ratio.

PERFORMANCE INDICATORS:

1. If tomatoes are marked 2 pounds for 59¢, what will 10 pounds of tomatoes cost?

2. Socks are on sale marked "3 pairs for $5.00".

   What will 12 pairs of socks cost?

3. Children's books are on sale—5 for $2.98.

   How much will 15 books cost?

4. Tires are marked "2 for $19.95".

   How much will 4 tires cost?

10

MATHEMATICS

Problem Solving

The student will be able to determine information from a graph, table, or chart.

MPS - 6

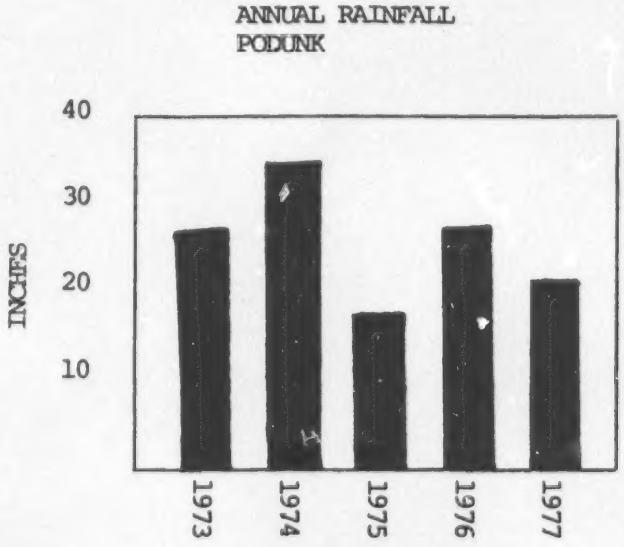
Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

1. a) Which of the 5 years shown had the most rainfall?

   b) In what year was the rainfall about 22 inches?



2. From the chart, what is the approximate mileage between—

   a. Chicago and Bismarck?

   b. Des Moines and Dallas?

APPROXIMATE MILEAGES	Albuquerque, N. Mex.	Bismarck, N. Dak.	Boise, Idaho	Calgary, Alta.	Chicago, Illinois	Dallas, Texas	Denver, Colo.	Des Moines, Iowa	El Paso, Texas
Bismarck, N. Dak.	1165								
Boise, Idaho	940	1030							
Calgary, Alta.	1480	805	745						
Chicago, Illinois	1315	820	1705	1575					
Dallas, Texas	640	1200	1585	1905	920				
Denver, Col.	430	715	805	1120	1015	780			
Des Moines, Iowa	990	675	1365	1480	345	690	670		
El Paso, Texas	270	1305	1210	1750	1450	625	650	1130	

MATHEMATICS

Problem Solving

MPS - 7

Pre-test: any

Post-test: all

The student will be able to compute time, rate or distance when the other two are given.

PERFORMANCE INDICATORS:

1. If it takes a man 5 hours to drive 275 miles, what is his average rate of speed?

2. If the Smiths average 53 miles per hour, how far will they travel in 6 hours?

3. At an average speed of 50 miles per hour, how long will it take to drive 150 miles?

4. An airplane flies 2,432 miles in 4 hours. What is the average rate of speed?

MATHEMATICS

Computation

MC - 1

Pre-test: any

Post-test: all

The student will be able to express any decimal to the nearest tenth or hundredth.

PERFORMANCE INDICATORS:

1. Circle the correct answer.

   39.63 expressed to the nearest tenth is

   a) 39.
   b) 39.6
   c) 39.63
   d) 39.7

2. Circle the correct answer.

   45.378 rounded to the nearest hundredth is

   a) 45.08
   b) 45.300
   c) 45.37
   d) 45.38

3. Round $397.1675 to the nearest cent.

4. Round $75.83 to the nearest ten cents.

MATHEMATICS

Computation

The student will be able to compute the sum of numbers expressed in decimal notation.

MC - 2

Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

1. Circle the correct answer.

   The sum of 3.7 and 4.95 is

   a) 4.132
   b) 5.32
   c) 8.65
   d) 86.5

2. Add:
   $$\begin{array}{r} 7.96 \\ 10.5 \\ \underline{8.395} \end{array}$$

3. Add: 100.75 + 23.9 + 276.074

4. Compute the sum of $2,965.71 and $32,643.84

MATHEMATICS

Computation

MC - 3

Pre-test: any

Post-test: all

The student will be able to compute the difference between any two numbers expressed in decimal notation.

PERFORMANCE INDICATORS:

1. What is the difference between $5.00 and $2.65?

2. Subtract:
$$\begin{array}{r} 39.68 \\ -\ 16.95 \\ \hline \end{array}$$

3. Circle the correct answer.

749.5 - 49.62 =

a) 253.30
b) 699.88
c) 699.92
d) 700.12

4. Find the difference
$$\begin{array}{r} 63{,}795.7 \\ -\ 19{,}382.17 \\ \hline \end{array}$$

MATHEMATICS

Computation

MC - 4

Pre-test: any

Post-test: all

The student will be able to find the product of any two numbers expressed in decimal notation.

PERFORMANCE INDICATORS:

1. Circle the correct answer.

   27.5 x 1.6 =

   a) 4.400
   b) 44.00
   c) 440.0
   d) .4400

2. Multiply 3.06 x 7.9

3. Compute the product.

$$\begin{array}{r} 97.63 \\ \times\ .07 \\ \hline \end{array}$$

4. Circle the correct answer.

   The product of 5,000 and .08 is

   a) 40,000
   b) 4,000
   c) 400
   d) 40

MATHEMATICS

Computation

MC - 5

Pre-test: any

Post-test: all

The student will be able to compute the quotient of any two numbers expressed in decimal notation.

PERFORMANCE INDICATORS:

1. Circle the correct answer.

   $6.3 \div 7 =$

   a) .09
   b) .9
   c) 9
   d) 90

2. Circle the correct answer. $.4\overline{).032}$

   In the above problem the quotient is

   a) .08
   b) .8
   c) 8
   d) 80

3. Compute the quotient.

   $13.95 \div 1.5$

4. Compute the quotient.

   $\$25\overline{)\$17.75}$

MATHEMATICS

Computation

The student will be able to compute the product of any two whole numbers of three digits or less.

MC - 6

Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

1. Circle the correct answer.

   608 x 5 =

   a) 304
   b) 3,040
   c) 3,045
   d) 3,240

2. Multiply:

   38
   x 42

3. The product of 597 x 43 is

   a) 4,179
   b) 24,671
   c) 25,571
   d) 25,671

4. Multiply: 709
   x 260

MATHEMATICS

Computation

MC - 7

Pre-test: [illegible]

Post-test: [illegible]

Using the divisor of no more than three digits, the student will be able to compute a quotient correct to the nearest hundredth or express the remainder as a fraction.

PERFORMANCE INDICATORS:

1. Circle the correct answer.

   The quotient of 85 ÷ 6 is 14 remainder 1 or

   a) 14 1/6
   b) 14 1/3
   c) 14.5
   d) 15

2. Circle the correct answer.

   The quotient of 3956 ÷ 27 expressed to the nearest hundredth is

   a) 146.050
   b) 146.5
   c) 146.51
   d) 146.52

3. Divide 36,000 by 900.

4. Divide: $256\overline{)9216}$

20

MATHEMATICS

Computation

The student will be able to give an approximation (or round) to the nearest tenth for any whole number of seven digits or less.

MC - 8

Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

1. Round 37 to the nearest tenth.

2. An approximation of 642 to the nearest tenth is _____.

3. Circle the correct answer.

   39,689 rounded to the nearest tenth is

   a) 40
   b) 39.680
   c) 39,690
   d) 39,700

4. Circle the correct answer.

   An approximation for $643,252 correct to the nearest tenth is

   a) $500
   b) $600
   c) $643,260
   d) $643,250

MATHEMATICS

Computation

MC - 9

Pre-test: any

Post-test: all

The student will be able to give an approximation (or round) to the nearest hundredth for any whole number of seven digits or less.

PERFORMANCE INDICATORS:

1. Circle the correct answer.

   An approximation of 63,575 to the nearest hundredth is

   a) 600
   b) 63,500
   c) 63,580
   d) 63,600

2. Circle the correct answer.

   80,407 rounded to the nearest hundredth is

   a) 80,000
   b) 80,400
   c) 80,500
   d) 81,000

3. Round 5,863 to the nearest hundredth.

4. Round $6,487 to the nearest hundredth.

MATHEMATICS

Computation

MC - 10

Pre-test: any

Post-test: all

The student will be able to give an approximation (or round) to the nearest thousandth or millionth for any whole number or seven digits or less.

PERFORMANCE INDICATORS:

1. Circle the correct answer.

   The actual population of a city is 3,681,732. The newspaper correctly quotes the population to the nearest thousandth as

   a) 3,680,000
   b) 3,681,000
   c) 3,682,000
   d) 3,700,000

2. Circle the correct answer.

   If a store reports its donut sales for a day correct to the nearest thousandth as 3,000, the actual number of donuts sold is between

   a) 2,000 and 3,000
   b) 2,501 and 3,449
   c) 3,000 and 4,000
   d) 3,750 and 3,850

3. Round 67,537 to the nearest thousandth.

4. Round 63,500,099 to the nearest millionth.

MATHEMATICS

Computation

MC - 11

Pre-test: any

Post-test: all

The student will be able to compute the sum of any whole number of seven digits or less.

PERFORMANCE INDICATORS:

1. Find the sum:
$$\begin{array}{r} 39 \\ 65 \\ 48 \\ \underline{93} \end{array}$$

2. Add:
$$\begin{array}{r} 68{,}973 \\ \underline{183{,}604} \end{array}$$

3. Find the sum of 36 and 9,463 and 783.

4. Add:
$$\begin{array}{r} 8{,}673{,}951 \\ \underline{2{,}396{,}287} \end{array}$$

MATHEMATICS

Computation

The student will be able to compute the difference between any whole number of seven digits or less.

MC - 12

Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

1. Find the difference.

$$\begin{array}{r} 3{,}695 \\ -\ 2{,}632 \\ \hline \end{array}$$

2. Subtract:

546,932 - 2,687

3. Subtract:

$$\begin{array}{r} 39{,}647 \\ -\ 7{,}853 \\ \hline \end{array}$$

4. Compute the difference.

$$\begin{array}{r} 6{,}000{,}000 \\ -\ 295{,}346 \\ \hline \end{array}$$

MATHEMATICS

Computation

MC - 13

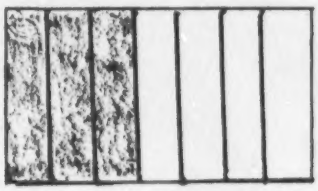
Pre-test: any

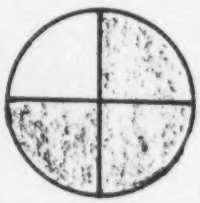
Post-test: all

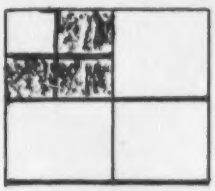
The student will be able to express a fraction such as a/b as "a out of b" equal parts.

PERFORMANCE INDICATORS:

1. Circle the picture below which is 3/4 shaded.

A 

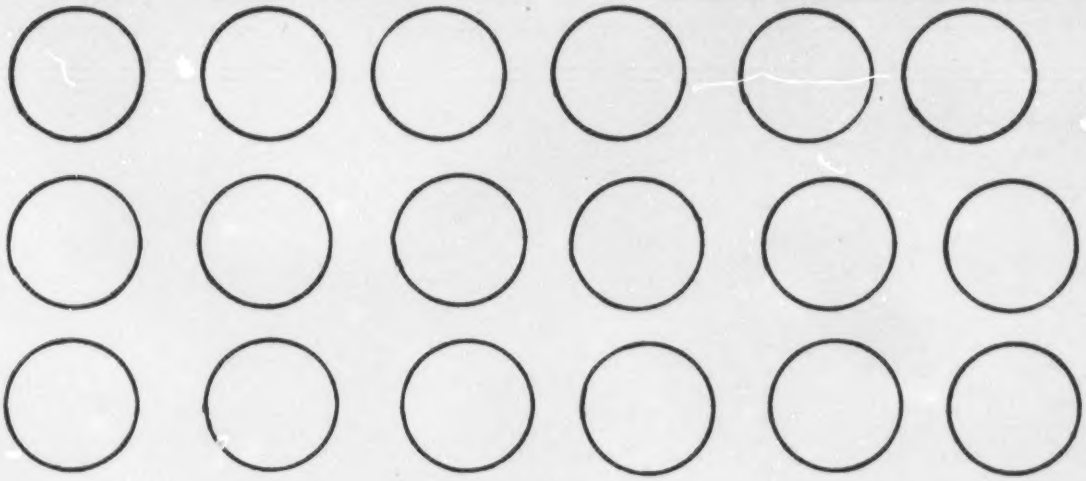
B 

C 

2. John is given 2/5 of a pie. This means the pie was cut into _____ equal pieces and John got _____ of them.

3. Draw a square. Divide it into eight equal parts. Shade one of the equal parts. What fraction does the shaded part of your drawing represent?

4. To shade 5/6 of the circles below you must first divide them into _____ equal groups and then shade _____ groups. Do it.



MATHEMATICS

Computation

MC - 14

Pre-test: any

Post-test: all

The student will be able to convert a common fraction to decimal notation and express it as a percent.

PERFORMANCE INDICATORS:

1. Match each common fraction with its decimal equivalent from Column A.

		A	
1)	1.4	a)	.2
2)	1/5	b)	.16
3)	7/10	c)	.25
4)	4/25	d)	.45
5)	9/20	e)	.7

2. Express each of these fractions as a percent.

1) 1/2

2) 3/4

3) 2/5

4) 6/10

MATHEMATICS

Computation

The student will be able to tell which of two common fractions is the greater.

MC - 15

Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

In each of the following pairs, circle the fraction which represents the greater number.

1. 3/8 5/8

2. 1/2 1/3

3. 3/10 1/5

4. 2/3 3/4

MATHEMATICS

Computation

MC - 16

Pre-test: any

Post-test: all

The student will be able to find the sum or difference of two fractions.

PERFORMANCE INDICATORS:

1. Find the sum:

   $1/2 + 1/3 =$

2. Find the sum:

$$\begin{array}{r} 7/8 \\ +\ 3/4 \\ \hline \end{array}$$

3. Find the difference:

   $1/2 - 1/4 =$

4. Find the difference:

$$\begin{array}{r} 4/5 \\ -\ 3/10 \\ \hline \end{array}$$

MATHEMATICS

Computation

MC - 17

Pre-test: any

Post-test: all

The student will be able to find the product or the quotient of any two fractions.

PERFORMANCE INDICATORS:

1. Find the product:

   $3/5 \times 5/8 =$

2. Multiply:

   $1/4 \times 32 =$

3. Divide:

   $7/8 \div 1/8 =$

4. Find the quotient:

   $5/6 \div 1/2 =$

MATHEMATICS

Geometry and Measurement

MGM - 1

Pre-test: any

Post-test: all

The student will be able to compute sums with measures and express answers in simplest form.

PERFORMANCE INDICATORS:

1. Add:
   3 ft. 7 in.
   8 ft. 9 in.

2. Add:
   4 lbs. 10 oz.
   7 lbs. 12 oz.

3. Add:
   6 m 4 cm
   9 m 15 cm

4. Add:
   7 hrs. 35 min.
   9 hrs. 48 min.

MATHEMATICS

Geometry and Measurement

The student will be able to find the difference between two measures and express it in simplest form.

MGM - 2

Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

1. Subtact:

$$\begin{array}{r} 17 \text{ ft. } 3 \text{ in.} \\ -\ 9 \text{ ft. } 8 \text{ in.} \\ \hline \end{array}$$

2. Subtract:

$$\begin{array}{r} 9 \text{ lbs. } 6 \text{ oz.} \\ -\ 4 \text{ lbs. } 10 \text{ oz.} \\ \hline \end{array}$$

3. Subtract:

$$\begin{array}{r} 10 \text{ hrs. } 15 \text{ min.} \\ -\ 6 \text{ hrs. } 30 \text{ min.} \\ \hline \end{array}$$

4. Mrs. Jones needs eight yards of rick-rack to trim a blouse she is making. She has 4 yds. 18 in.

   How much more does she need?

MATHEMATICS

Geometry and Measurement

MGM - 3

Pre-test: any

Post-test: all

The student will be able to find the product of a measure times a number and express the answer in simplest form.

PERFORMANCE INDICATORS:

1. 3 ft. 4 in.
   x 8

2. 6 lbs. 5 oz.
   x 4

3. 2 hrs. 20 min.
   x 6

4. 6 min. 35 sec.
   x 5

MATHEMATICS

Geometry and Measurement

MGM - 4

Pre-test: any

Post-test: all

The student will be able to divide a measure by a number.

PERFORMANCE INDICATORS:

1. $5\overline{)15 \text{ hrs. } 35 \text{ min.}}$

2. Mr. Jones is going to cut a pole that is 7 ft. 8 in. long into four stakes.

   How long will each stake be?

3. Mrs. Jones has 6 hrs. 15 min. to complete five pot holders she is making.

   How much time can she spend on each one?

4. Mr. Gardener has 9 lbs. 12 oz. of fertilizer. He wants to spread it evenly on four flower beds.

   How much should be put on each bed?

MATHEMATICS

Geometry and Measurement

MGM - 5

Pre-test: any

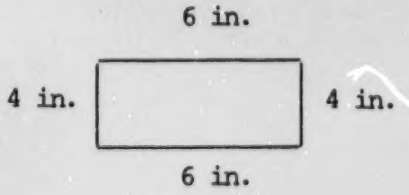
Post-test: all

The student will be able to compute the perimeter of a rectangle and express the answer in the correct unit.

PERFORMANCE INDICATORS:

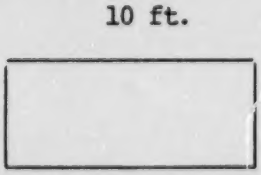
Express all answers in correct units.

1. Compute the perimeter of this rectangle.



2. What is the perimeter of a square that measures 8 centimetres on a side?

3. Compute the perimeter of this rectangle.



4. How many metres of fencing does Mr. Metric need to fence a rectangular garden that is 50 metres long and 30 metres wide?

MATHEMATICS

Geometry and Measurement

The student will be able to compute the area of a rectangle and express the answer in correct units.

MGM - 6

Pre-test: any

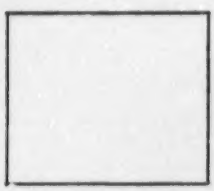
Post-test: all

PERFORMANCE INDICATORS:

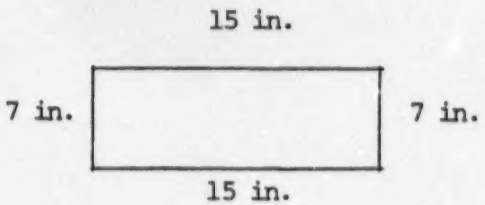
Express all answers in correct units.

1. How many square yards of carpeting are needed to cover a rectangular floor 5 yds. by 6 yds.?

2. Compute the area of this square.



3. Compute the area of this rectangle.



4. Mr. Big owns a ranch which is rectangular in shape. It is 8 km. long and 5 km. wide. What is its area?

MATHEMATICS

Geometry and Measurement

MGM - 7

Pre-test: any

Post-test: all

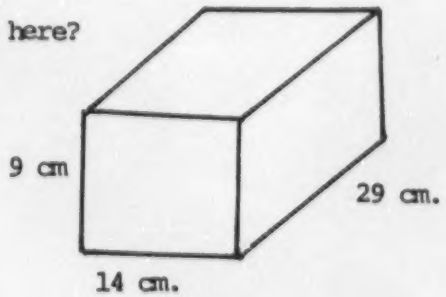
The student will be able to compute the volume of a right rectangular prism and express the answer in correct units.

PERFORMANCE INDICATORS:

Express all answers in correct units.

1. What is the volume of a bin 6 ft. long, 4 ft. wide, and 3 ft. deep?

2. What is the volume of the shoe box pictured here?



3. A child's rectangular wading pool is 7 ft. by 4 ft. If it is filled to a depth of 1 ft., how much water is needed?

4. A room ractangular in shape is 12 ft. long and 10 ft. wide. The ceiling is 8 ft. above the floor.

   What is the volume of air space in the room?

MATHEMATICS

Geometry and Measurement

The student will be able to choose a suitable unit (English and Metric) to measure a given attribute.

MGM - 8

Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

For each of the attributes on the left, choose one English and one Metric unit from the list below.

	English Unit	Metric Unit
1. length	_____	_____
2. weight	_____	_____
3. area	_____	_____
4. capacity	_____	_____

litre	metre	foot	square centimetre
square inch	kilogram	quart	
cubic yard	cubic metre	pound	

MATHEMATICS

Geometry and Measurement

MGM - 9

Pre-test: all

Post-test: all

The student will be able to choose an appropriate instrument to measure a given attribute.

PERFORMANCE INDICATORS:

Match an instrument from column B with each attribute to be measured in column A.

A	B
_____ 1. Weight	a. ruler
_____ 2. Length	b. clock
_____ 3. Temperature	c. thermometer
_____ 4. Time	d. scale

MATHEMATICS

Geometry and Measurement

The student will be able to state the freezing and boiling points of water on both the Fahrenheit and Celsius thermometer.

MGM - 10

Pre-test: all

Post-test: all

PERFORMANCE INDICATORS:

Give the temperature at which

1. Water boils (Fahrenheit) _____

2. Water boils (Celsius) _____

3. Water freezes (Fahrenheit) _____

4. Water freezes (Celsius) _____

MATHEMATICS

Geometry and Measurement

MGM - 11

Pre-test: all

Post-test: all

The student will be able to recognize the attribute being measured from a given unit (English and Metric).

PERFORMANCE INDICATORS:

Below are two lists of standard measurement units. After each, write the name of the attribute for which it is used. (area, length, time, temperature, volume, capacity, or weight)

English Measurement Units	Metric Measurement Units
1. cubic inch	1. gram
2. fahrenheit	2. litre
3. foot	3. metre
4. square yard	4. minute
5. quart	5. celsius
6. pound	6. kilometre
7. hour	7. square centimetre
8. ounce	8. kilogram

MATHEMATICS

Geometry and Measurement

The student will be able to compare English and Metric (mile, pound, yard, inch, quart, kilometre, metre, centimetre, litre) measures by stating which is larger.

MGM - 12

Pre-test: all

Post-test: all

PERFORMANCE INDICATORS:

In each case below, circle the larger of the two measures.

1. mile kilometre

2. pound kilogram

3. yard metre

4. inch centimetre

5. quart litre

MATHEMATICS

Geometry and Measurement

MGM - 13

Pre-test: all

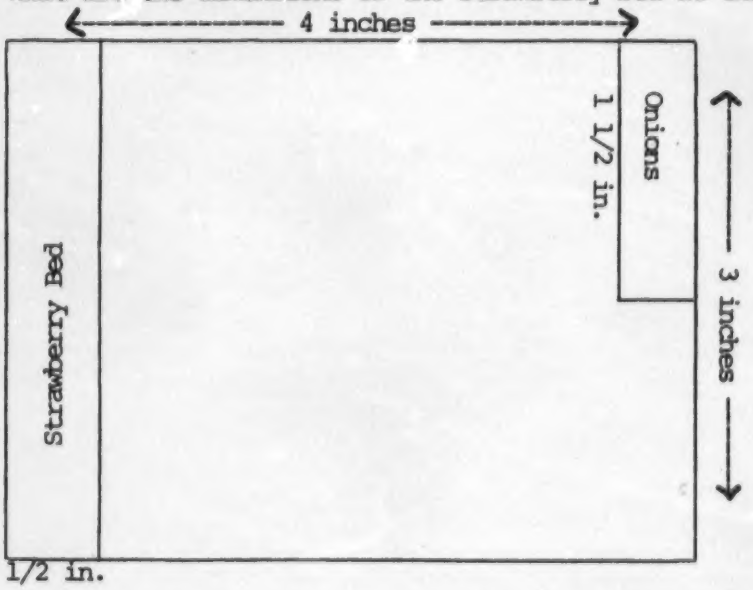
Post-test: all

The student will be able to determine actual lengths from a scale drawing.

PERFORMANCE INDICATORS:

Below is a scale drawing of Mr. Big Family's garden plot.

1. How long is his garden?
2. How wide is his garden?
3. How long is the row of onions?
4. What are the dimensions of the strawberry bed at the end of the garden?



1 inch = 8 feet

MATHEMATICS

Geometry and Measurement

The student will be able to substitute dimensions for letters in a given formula and compute the answer.

MEM - 14

Pre-test: any

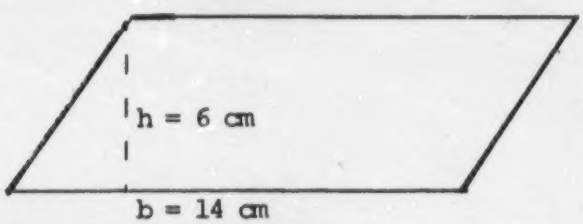
Post-test: all

PERFORMANCE INDICATORS:

1. The formula for the area of a circle is $A = \pi r^2$.

   If the given circle has a radius of 10 in., what is the area? (Use $\pi = 3.14$)

2. The formula for the area of a parallelogram is A = bh. What is the area of the parallelogram shown here?

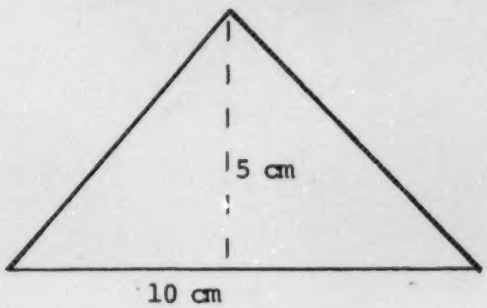


3. The formula for the volume of a cylinder is $V = \pi r^2 h$, where r = the radius of the base, and h = the height.

   Find the volume of a tin can with these dimensions: r = 2 in.
   h = 7 in.
   $\pi = 3.14$

4. The formula for the area of a triangle is A = 1/2 bh.

   Find the area of the triangle shown here.



MATHEMATICS

Geometry and Measurement

The student will be able to compute elapsed time in hours and minutes.

MGM - 15

Pre-test: any

Post-test: all

PERFORMANCE INDICATORS:

1. If Joe left work at 5:05 p.m. and arrived home at 6:15 p.m., how long did it take him to get home?

2. Mrs. Money Baggs left home at 10:15 a.m. to go shopping. She returned home at 3:50 p.m..

   How long was she gone?

3. A sheet metal worker started work at 7:45 a.m. He gets paid for his 1/2 hour lunch break. He stopped work at 3:30 p.m.

   For how much time will he be paid?

4. If Junior goes to bed at 9:30 p.m. and gets up at 6:15 a.m., how long does he spend in bed?

ANSWERS

Problem Solving

MPS - 1

1. Sales tax = $6.00, Change = $4.00

2. a) $18.11 b) $1.89 c) 1-dollar, 1-50¢ piece, 1-quarter, 1-dime, 4-pennies

3.

	S.T.	Total	Change
A	$.50	$10.50	$9.50
B	$.79	$16.58	$3.42
C	$.23	$ 4.83	$ .17

4. A = 9-dollars, 1-50¢ piece
   B = 3-dollars, 1-quarter, 1-dime, 1-nickel, 2-pennies
   C = 1-dime, 1-nickel, 2-pennies

MPS - 2

1. a) $50.00 b) $550.00

2. $337.50

3. $1,240.00

4. $2,480.00

MPS - 3

1. $20.00

2. $60.00

3. $297.00

4. $25.46

MPS - 4

1. $3,150.00
2. $300.00
3. $60.00
4. $375.00

ANSWERS

MPS - 5

1. $2.95
2. $20.00
3. $8.94
4. $39.90

MPS - 6

1. a) 1974 b) 1977
2. a) 820 miles b) 690 miles

MPS - 7

1. 57 mph
2. 318 miles
3. 3 hours
4. 608 mph

Computation

MC - 1

1. b - 39.6
2. d - 45.38
3. $397.17
4. $75.80

MC - 2

1. c - 8.65
2. 26.855
3. 400.724
4. $35,609.55

ANSWERS

MC - 3
1. $2.35
2. 22.73
3. b - 699.88
4. 44,413.53

MC - 4
1. b - 44.00
2. 24.174
3. 6.8341
4. c - 400

MC - 5
1. b - .9
2. a - .08
3. 9.3
4. 71

MC - 6
1. b - 3,040
2. 1,596
3. 25,671
4. 184,347

MC - 7
1. a - 14 1/6
2. d - 146.52

MC - 7
3. 40
4. 36

MC - 8
1. 40
2. 640
3. c - 39,690
4. d - $643,250

MC - 9
1. d - 63,600
2. b - 80,400
3. 5,900
4. $6,500.00

MC - 10
1. c - 3,682,000
2. b - 2,501 and 3,449
3. 68,000
4. 64,000,000

MC - 11
1. 245
2. 252,577
3. 10,282
4. 11,070,38

ANSWERS

MC - 12

1. 1,063
2. 544,245
3. 31,794
4. 5,704,654

MC - 13

1. b
2. 5 and 2
3. accept any 8 equal parts. 1/8
4. accept any 6 equal groups and 5 shaded.

MC - 14

1. 1) c - .25
   2) a - .2
   3) e - .7
   4) b - .16
   5) d - .45
2. 1) 50%
   2) 75%
   3) 40%
   4) 60%

MC - 15

1. 5/8
2. 1/2
3. 3/10
4. 3/4

MC - 16

1. 5/6
2. 13/8 = 1 5/8
3. 1/4
4. 5/10 = 1/2

MC - 17

1. 3/8
2. 8
3. 7
4. 1 2/3

Geometry and Measurement

MGM - 1

1. 12 ft. 4 in.
2. 12 lb. 6 oz.
3. 15 m. 19 cm.
4. 17 hr. 23 min.

MGM - 2

1. 7 ft. 7 in.
2. 4 lb. 12 oz.
3. 3 hr. 45 min.
4. 3 yd. 18 in.

MGM - 3

1. 26 ft. 8 in.
2. 25 lb. 4 oz.

ANSWERS

MGM - 3

3. 14 hr.
4. 32 min. 55 sec.

MGM - 4

1. 3 hr. 7 min.
2. 1 ft. 11 in.
3. 1 hr. 15 min.
4. 2 lb. 7 oz.

MGM - 5

1. 20 in.
2. 32 cm.
3. 30 ft.
4. 160 m.

MGM - 6

1. 30 sq. yd.
2. 9 cm^2
3. 105 sq. in.
4. 40 $km.^2$

MGM - 7

1. 72 cu. ft.
2. 3,654 $cm.^3$
3. 28 cu. ft.
4. 960 cu. ft.

MGM - 8

	English	Metric
1.	foot	metre
2.	pound	kilogram
3.	sq. in.	cm^2
4.	quart	litre

MGM - 9

1. d
2. a
3. c
4. b

MGM - 10

1. 212°
2. 100°
3. 0°
4. 32°

MGM - 11 (Eng.)

1. volume/capacity
2. temperature
3. length
4. area
5. volume/capacity
6. weight
7. time

ANSWERS

MGM - 11 (Eng.)
8. weight

MGM - 11 (Met.)
1. weight (mass)
2. volume/capacity
3. length
4. time
5. temperature
6. length (distance)
7. area
8. weight (mass)

MGM - 12
1. mile
2. kilogram
3. metre
4. inch
5. litre

MGM - 13
1. 32 feet
2. 24 feet
3. 12 feet
4. 24 ft. x 4 ft.

MGM - 14
1. 314 sq. in.
2. 84 cm.^{2}
3. 87.92 cu. in.
4. 25 cm.^{2}

MGM - 15
1. 1 hr. 10 min.
2. 5 hr. 35 min.
3. 7 hr. 45 min.
4. 8 hr. 45 min.